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ENVIRONMENTAL PROTECTION

OFFICE OF AIR QUALITY MANAGEMENT

Enhanced Inspection and Maintenance Program

Adopted Amendments: N.J.A.C. 7:27-15.5 and 15.6

Adopted New Rule: N.J.A.C. 7:27B-4.13

Proposed: May 6, 1996 at 28 N.J.R. 2298(b).

Adopted: January 7, 1997 by Robert C. Shinn Jr., Commissioner, Department of Environmental Protection.

Filed: January 9, 1997 as R. 1997 d.5b, **without change**.

Authority: N.J.S.A. 13:1B-3(e), 13:1D-9, 26:2C-8 et seq., specifically 26:2C-8 through 8.5, and 8.11 and N.J.S.A. 39:8-41 et seq; specifically 39:8-41 through 58.

DEP Docket Number: 06-96-03.

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Effective Date: February 3, 1997.

Operative Date: March 8, 1997.

Expiration Date: Exempt.

The New Jersey Department of Environmental Protection (the Department) is adopting herein amendments and a new rule at N.J.A.C. 7:27-15 (Subchapter 15, Control and Prohibition of Air Pollution from Gasoline-fueled Motor Vehicles) and N.J.A.C. 7:27B-4 (Subchapter 4, Air Test Method 4: Testing Procedures for Motor Vehicles). These subchapters include standards and test procedures for the inspection of gasoline-fueled motor vehicles. This action is part of New Jersey's overall effort to attain and maintain National Ambient Air Quality Standards (NAAQS) for carbon monoxide (CO) and ground-level ozone. The adoption of these amendments and new rule continues the process of establishing an enhanced inspection and maintenance (I/M) program for New Jersey.

On October 2, 1995, the Department published its adopted new rules and amendments to Subchapter 15 and Subchapter 4, establishing an enhanced inspection and maintenance (I/M) program. See 27 N.J.R. 3806(a). The Department of Transportation, Division of Motor Vehicles (DMV) published its adopted complementary rules for the enhanced I/M program on that same date. See 27 N.J.R. 3820(a).

Among their other features, New Jersey's newly adopted enhanced I/M program rules provided for a hybrid mix of authorized vehicle testing sites, which included both a State-wide network of centralized enhanced testing facilities operated under the auspices of New Jersey's Division of Motor Vehicles (DMV) as well as decentralized private inspection facilities (PIFs), albeit with limitations placed on the PIFs as to which model years they could inspect. Specifically, the primary limitation was that PIFs would be licensed to perform initial inspections only on vehicles that are four model years old or newer. Generally, facilities licensed as PIFs would be private garages which offer vehicle repair services as well as testing (that is, test-and-repair facilities). The limitation on PIFs was a marked departure from what had been allowed previously under the State's basic I/M program. Under the basic I/M program, no model year restrictions were placed on the vehicles a privately-operated testing center, termed private inspection center (PIC), could test.

In the October 2, 1995 rule promulgation, the Department included the limitations on PIF participation in vehicle testing in the enhanced I/M program at N.J.A.C. 7:27-15.5(c) to enable the program to meet the performance standard established by the United States Environmental Protection Agency (EPA) for an enhanced I/M program.

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The EPA had required application of a presumptive 50 percent discount of program effectiveness, in terms of realizing emission reductions, to that portion of the testing in an enhanced I/M program performed at test-and-repair facilities; that is, under the federal enhanced I/M program rules, the EPA automatically discounted by 50 percent the emission reduction credit it allocated to a State SIP revision where the I/M program in such a plan revision was decentralized, or a test-and-repair program. Limiting the portion of the initial testing performed by PIFs to only those vehicles that are four model years old or newer was the least restrictive limit the Department could apply, at the time the design of the enhanced I/M program was developed, without compromising the ability of the enhanced I/M program to meet the EPA's performance standard.

However, the National Highway System Designation Act of 1995 (NHSDA), P.L. 104-59 [S. 440], has subsequently given states greater flexibility in using test-and-repair facilities in enhanced I/M programs, by eliminating the presumptive 50 percent emission credit discount on testing performed by PIFs. In response to the enactment of the NHSDA, New Jersey reexamined the design of its enhanced I/M program. On March 27, 1996, the Department transmitted to the EPA proposed revisions to the State Implementation Plan (SIP) that included an interim enhanced I/M program, which would take advantage of the new flexibility provided by the NHSDA. This proposed SIP revision included a commitment to adopt amendments to the Department's rules at N.J.A.C. 7:27-15 and N.J.A.C. 27B-4, (this commitment is being met herein). The proposed SIP revisions also included a commitment for the DMV to adopt amendments to its rules at N.J.A.C. 13:20-43 and 44 (this commitment will be met by the DMV's adoption of these amendments which is expected shortly). The combined effect of the Department rules and the DMV rules is to provide for the expanded participation of PIFs in the enhanced I/M program. Additional changes to the enhanced I/M program design also included in the proposed SIP revision are discussed more fully in the Department's proposal at 28 N.J.R. 2298(b) and the DMV's proposal at 28 N.J.R. 2334(a).

The Department and the DMV jointly held a public hearing on June 6, 1996 to provide interested parties the opportunity to present comments on the Department's proposed amendments and new rule, the DMV's proposed amendments, as well as the proposed enhanced I/M SIP revision. The comment period closed on June 14, 1996. The Department received oral and/or written comments on its proposed amendments and new rule from the following persons:

1. William Baker, United States Environmental Protection Agency

2. Daniel Buckley, Quad Computer Systems Consultants

3. Stephen Carrellas, National Motorists Association

4. Vincent Lehotsky, private citizen

5. Carmine DeZuzio, Classic Vehicle Advocate Group

Comments received by the Department on the proposed amendments to the Department's rules at N.J.A.C. 7:27-15 and N.J.A.C. 7:27B-4 are summarized and responded to below.

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Summary of Hearing Officer's Recommendations and Agency Responses:

John Elston, Administrator of the Department's Office of Air Quality Management, served as the Hearing Officer at the June 6, 1996, public hearing held at the Department of Environmental Protection Building in Trenton, New Jersey. The Hearing Officer recommended that the Department adopt the proposed rule amendments at N.J.A.C. 7:27-15.5 and 15.6 and the proposed new rule at N.J.A.C. 7:27B-4.13. The Department has accepted the Hearing Officer's recommendations.

The Department adopts herein the new rule and amendments, as proposed. The comments received on the proposal confirm and/or do not alter the Department's determination that these proposed modifications to the enhanced I/M program design are consistent with the greater flexibility afforded by the NHSDA and best serve the needs and interests of this State, including its citizens and residents, New Jersey motorists and small businesses. Please see the Summary of Public Comments and Agency Responses, below, for more detail. The Hearing Officer's recommendations are set forth in the hearing officer's report. A copy of the record of public hearing is available upon payment of the Department's normal charges for copying ($0.75 per page for first 10 pages, $0.50 per page for the following 10 pages, $0.25 per page for additional pages). Persons requesting copies should contact:

ATTN: Docket #06-96-03

Department of Environmental Protection

Office of Legal Affairs

401 East State Street

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Trenton, New Jersey 08625-0402

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Copies of this adoption document and the supplemental Enhanced I/M SIP submittal appear on the Department's Air Quality Regulations Bulletin Board as IM-DEPA.ZIP and IM-SIPA.ZIP, respectively, and can be downloaded electronically. These compressed files contain WordPerfect® 5.1 and ASCII documents and are located in file area #35 (Air: Props, Adopts, & Notices). The data line number for the Bulletin Board is (609) 292-2006. (Data bit: 8; Parity: N; Stop bit: 1)

Summary of Public Comments and Agency Responses:

The number(s) in parentheses after each comment corresponds to the commenter numbers above to indicate the person(s) who submitted the comment. The comments are as follows:

1. COMMENT: The Department is commended for doing a good job in taking advantage of the provisions of the National Highway System Designation Act and evolving the program into a more convenient and cost effective program for motorists. The proposed changes also make the program less onerous to owners of older cars, classic cars and performance cars. Also to be commended is the expedited inclusion of gas cap pressure checks as part of the existing program, which will yield additional early emission reductions. (1, 3, 5)

RESPONSE: The Department appreciates the commenters' support and thanks them for their recognition of the State's efforts in designing an enhanced I/M program that is both effective and convenient and cost-effective for motorists.

2. COMMENT: One commenter generally opposed the rules, program design and the SIP as still not meeting the best interest of New Jersey. Furthermore, it will be politically impossible to implement since the public will not accept a first inspection with a dynamometer. (3)

RESPONSE: The Department is confident that the program design of the enhanced I/M program, as modified by the new rule and amendments adopted herein, will successfully address the many concerns and interests raised during the lengthy negotiations between the State and the EPA which resulted in the program design. Throughout these negotiations and the rule development process, a major consideration has always been the impact on New Jersey citizens/residents, motorists and the small business community, both in terms of cost and convenience. The Department expects that the gradual introduction of dynamometer testing, that is, use of the

ASM5015 procedure, during the initial, voluntary portion of the enhanced I/M program, will ensure a smooth transition from New Jersey's basic I/M program to an enhanced I/M program that will be accepted by a public that is accurately informed of the health and environmental benefits resulting from such a program.

3. COMMENT: This commenter supported the State's proposal to continue with full participation of the private inspection facilities, by amending N.J.A.C. 7:27-15.5(c). The strength of the New Jersey inspection and maintenance program has been the abundance of PICs providing for the motorists' choice between private and centralized testing. The State should, however, retain as many private inspection facilities as possible, by keeping down the cost of the new equipment and by providing for electronic support via an electronic bulletin board system (BBS). A BBS should be part of the Enhanced Inspection and Maintenance Program because the dissemination of technical information is so critical to the success of the repair and maintenance component of the program. (2)

RESPONSE: The Department appreciates the commenter's support of the adopted new rule and amendments for the implementation of New Jersey's enhanced I/M program. The State believes that the participation of PIFs in the same manner as PICs have participated in the basic I/M program will result in a smoother transition to the enhanced I/M program. However, PIFs will unavoidably face an initial capital investment for new testing equipment. In order to perform the new enhanced test procedures, PIFs will need to purchase more sophisticated equipment than that now in use in most private inspection centers (PICs). The cost of this equipment, as well as its accuracy, has been a significant factor considered by the Department in developing the equipment specifications for the enhanced I/M program. However, each potential PIF will need to weigh the initial costs of the new inspection equipment against the potential profits from operating as a licensed PIF to determine whether the purchase of the required equipment represents a good investment.

The Department also thanks the commenter for his suggestion that the State provide a BBS for PIF support. Although the PIFs and the DMV will be linked electronically for the purpose of providing the PIFs access to the emission test database and enabling data collection by the State, PIFs, in particular those PIFs which are also registered repair facilities, may need electronic access to additional information.

4. COMMENT: Two commenters believe many I/M programs are overrated in terms of air quality benefit and cost effectiveness. Studies show that enhanced I/M is not the best, most cost-effective way to deal with air pollution in New Jersey. States should exercise caution in implementing enhanced I/M programs because of flaws of which the EPA is aware in both the Federal Test Procedure (FTP) and the Mobile 5A. A recent study underwritten by the United States Department of Transportation and the United States Department of Energy concluded that while car manufacturers are designing cars to pass the FTP driving cycles, they are not addressing the high level of emissions produced when these cars are operated "off-cycle"; that is, in traffic jams, with air conditioners operating, or during aggressive accelerations. Likewise, emphasis on anti-tampering rules is misplaced, since most excess emissions are really attributable to off-cycle driving habits (that is, using a driving cycle dissimilar to the FTP) and the normal failure of emission control systems. Mechanic tampering and owner abuse are not the primary causes of high emissions. Because the basis for the performance standard is still the EPA's fatally flawed Mobile 5A computer model, there is no scientific basis for the need for an enhanced I/M program as currently proposed. (2, 3)

RESPONSE: The Department does not agree that I/M programs are overrated in terms of air quality benefit and cost effectiveness, nor does it agree that the EPA has relied on a faulty computer model in projecting benefit and cost effectiveness. The EPA Mobile 5A model is used to evaluate air quality benefit and cost effectiveness of alternative program designs and is the most accurate method for predicting the relative effectiveness of various I/M programs that is currently available. As new information is gathered from its laboratory testing or generated by operational enhanced I/M programs throughout the country, the EPA updates the model, as appropriate.

As for the appropriateness of relying on the FTP, the FTP is the certification test used by automobile manufacturers to ensure that newly-manufactured vehicles are meeting the applicable certification standards prior to sale. It is essential, therefore, that any test used in an enhanced I/M program must be demonstrated to correlate well with the FTP. Otherwise, a vehicle manufactured to, and maintained at, federal specification levels could falsely fail such a test. The EPA developed the transient, exhaust emissions test known as the IM240 to correlate closely with the FTP. The IM240 is now widely recognized as correlating more closely with the FTP than does any other short exhaust emissions test developed to date for this purpose. The loaded exhaust emissions test which the Department selected to be the exhaust emissions test used in New Jersey's enhanced I/M program for newer vehicles, known as the ASM5015, has been shown in recent studies to correlate well with both the FTP and the IM240.

As with the Mobile 5A model, the EPA upgrades the FTP, as appropriate, when new information becomes available that can be used to improve the test procedure. On October 22, 1996, the EPA published its Final Regulations for Revisions to the Federal Test Procedure for Emissions From Motor Vehicles. See 61 Fed. Reg. 54851. The EPA based this action on its determination that the existing FTP did not realistically account for the emissions effect of aggressive driving behavior, high acceleration rates or the operation of air conditioners. As the commenter points out, these behavior patterns contribute significantly to vehicle emissions. For example, the maximum speed on the existing test cycle is only 57 miles per hour (mph) and the acceleration rates are relatively mild. The revisions to the test cycle will provide control of emissions during aggressive accelerations and at speeds of up to 80 mph to reflect real world driving. The EPA also found that NOx emissions double with the use of air conditioners. The EPA expects the use of the revised FTP to cut these excess emissions in half, which is important since air conditioners are most often used on sunny, hot days which pose the greatest potential for high ozone levels. The phase-in of the revised FTP will begin with the 2000 model year and complete with the model year 2004.

At this time it is not expected that it will be necessary to revise the IM240 or the ASM 5015 to conform with the revised FTP, which now addresses such typically high emission driving cycles as high speeds, rapid accelerations and use of the vehicle's air conditioning system. The EPA advises that use of the new FTP is not expected to affect the effectiveness of the IM240 or the ASM 5015, because deterioration of a vehicle's emission control system that results in excessive emissions under the driving cycles covered by the new FTP (and not covered currently by the IM240 or the ASM 5015) will also affect the emission levels during the driving cycles observed with the IM240 and the ASM 5015. That is, the effects of the deterioration would be across-the-board, increasing emissions in all driving cycles.

The Department does not agree with the commenter concerning the importance of anti-tampering rules for emission controls. The Department agrees with the commenter that, in New Jersey, a relatively small number of vehicles have emission controls that evidence intentional tampering. However, because tampering generally results in emission increases of several hundred percent, these vehicles still represent a significant source of excess emissions that can be effectively remediated. In regard to driving habits which result in excess emissions, while the enhanced inspection cannot identify these habits, it is useful in identifying emission control system failures, and thus plays an important role in reducing emissions. The EPA is addressing the impact of emissions from off-cycle driving patterns through upgrades to the FTP.

5. COMMENT: One commenter suggested that new high emitter identification and information technologies offer cost-effective opportunities while challenging traditional I/M procedures and guidance. New Jersey should look at innovative ways of dealing with emission problems and not rely on the EPA guidance. In addition, the traditional idle test is as effective as the enhanced tests in identifying high emitters. The greatest benefit of loaded mode testing is probably fleet auditing/recall identification, and not for inspection. We should limit our enhanced or loaded testing to a limited number of cars, and not test every car. (2)

RESPONSE: The Department will continue to evaluate technological advances in emissions testing and emission reduction equipment and technology to ensure that the best possible testing methodologies and equipment are considered for future use in the program. However, many new technologies are still in their infancy and will require years before they are completely evolved and their full potential evaluated.

The tests currently included in the enhanced I/M program have been demonstrated to effectively indicate whether or not a vehicle is functioning properly and whether it meets certified configuration requirements. They are designed to identify as well as distinguish between vehicle tampering, poor or improper maintenance and vehicle malfunction. The effectiveness of new technologies needs to be demonstrated to be as effective as these proven technologies.

The commenter is correct in noting that the idle test is effective in detecting high emitters. The idle test has been New Jersey's official inspection test for gasoline-fueled motor vehicles since 1974 and thus the Department is quite familiar with its advantages and shortcomings. Because the idle test is not performed while the tested vehicle's engine is operating under load, but only idling, the idle test does not adequately simulate actual driving conditions. This means the idle test cannot detect emission defects which occur only under actual driving conditions. The ASM5015 test, included in the enhanced I/M program, is a loaded mode test which more closely simulates the driving conditions of a motor vehicle. As a result, the ASM5015 test reduces the incidence of false passes and false failures and more accurately detects marginally failing, as well as grossly failing, newer technology vehicles.

The Department agrees that loaded mode exhaust emission testing is useful in providing accurate identification of vehicles that may be performing outside of their specifications for fleet auditing and recall identification purposes. Such information generated by an enhanced I/M program may also be used by the EPA to investigate possible recalls of classes of vehicles by the manufacturer that may have emission system design defects resulting in routine pattern failures. However, using a loaded mode exhaust emission test such as the ASM 5015 only for these purposes will not satisfy the federal requirements for an enhanced I/M program for New Jersey, nor will it yield the emission reduction benefits which will be realized from the use of the ASM 5015 on every car subject to an enhanced inspection under New Jersey's enhanced I/M program. Furthermore, the largest proportion of excessively-emitting vehicles is the result of poor maintenance and is not related to emission system design defects.

6. COMMENT: One commenter suggested that, to the extent that using private inspection facilities may result in a loss of emission reduction credit attributable to human factors, alternative testing methods, such as on-board diagnostics (OBD), functional testing and O2 sensor waveform analysis, could be used by PIFs in lieu of loaded mode testing. The use of such alternative testing has incidental benefits including improved public relations, quality assurance auditing, and additional mechanic training. (2)

RESPONSE: While the alternative methods mentioned by the commenter for testing the functioning of a motor vehicle emission control system are good diagnostic supplements to the enhanced I/M program, they are not effective substitutes for the ASM5015 exhaust emissions test and the tests for evaporative emissions which will be employed in the State's enhanced I/M program.

The use of on-board diagnostic systems such as the latest version, known as OBDII, may result in an effective means of monitoring in-use vehicle emissions. However, since OBDII systems have only recently become a required component of motor vehicle design in this country with model year 1996, (some OBDII monitoring requirements are being phased in), most vehicles on the road today have not been equipped with such devices, and it will be some time before there is a significant fleet turnover and the fleet is largely equipped with OBD II. It is estimated that a significant number of vehicles without full OBD II capabilities will be on the road for at least another 15 years. In addition, the effectiveness of OBD II monitoring systems in an inspection environment has yet to be determined. The EPA recently revised its enhanced I/M program rules to establish the minimum requirements for inspecting vehicles equipped with on-board diagnostic systems as part of the inspections required in basic and enhanced I/M programs. The EPA's OBD rules provide that the states will conduct a two-year pilot test of OBDII effectiveness beginning in 1998. See 61 Fed. Reg. 40939, (August 6, 1996).

The O2 sensor waveform analysis is a useful diagnostic tool and is already used by most automotive technicians in repairing emission system failures. Functional tests, such as the visual inspection for the presence of a catalytic converter and pressure and purge testing, will be part of the new enhanced inspection program. However, none of these additional testing methodologies can substitute for the actual measurement of tailpipe emissions. Although these alternative types of testing may have

incidental benefits to both technicians and consumers, such testing is more appropriate for diagnostic and maintenance purposes rather than emissions measurement and quantification.

As testing technologies develop, however, the Department will continue to work with the DMV and the inspection and repair industries to ascertain when and how to best integrate them into the inspection process. The Department has determined that, at this time, the enhanced emissions tests selected for use in New Jersey's enhanced I/M program together represent the most effective and efficient method of identifying excess emissions from in-use motor vehicles.

It is also important to recognize that the technologies mentioned by the commenter have not been approved by the EPA, pursuant to the EPA's final I/M rule at 40 C.F.R. 51.357(a)(13), as alternative test procedures. Prerequisite to such EPA approval is a finding by the EPA that 1) "[s]uch procedures are in accordance with good engineering practice, including errors of commission (at cutpoints corresponding to equivalent emission reductions) no higher than the tests they would replace"; 2) "[s]uch procedures show a correlation with the Federal Test Procedure (with respect to their ability to detect high emitting vehicles and ensure their effective repair) equal to or better than the tests they would replace"; and 3) "[s]uch procedures would produce equivalent emission reductions in combination with other program elements." The Department believes that these alternative tests are not yet capable of meeting these criteria.

7. COMMENT: Two commenters questioned the need for an enhanced I/M program in New Jersey because they believe that: 1) cars don't contribute significantly to the NOx problem in New Jersey; and 2) automotive technology and New Jersey mechanics, not the inspection program, are responsible for the State's successful handling of the CO problem. The program should emphasize education and maintenance rather than question the integrity of PIFs. (2, 5)

RESPONSE: Despite considerable success in reducing the emissions from gasoline-fueled motor vehicles, motor vehicles continue to contribute 38 percent of the NOx emissions, as well as 66 percent of the CO emissions, released into New Jersey's atmosphere. Specifically, according to the 1990 base emission inventory developed by the Department during 1993, highway sources contribute 37.7 percent of the 1,511 tons of NOx added daily to the atmosphere in New Jersey, and 66.2 percent of the 4,459 tons/day of CO. Not mentioned by the commenter, but also a significant air pollution concern, is the contribution of highway sources to VOC emissions in New Jersey. The 1990 base emission inventory further indicates that in New Jersey highway sources contribute 26.7 percent of the 1,776 tons/day of VOC. These contributions are not insignificant. Addressing the mobile source contributions with the enhanced I/M program is essential to the State's overall efforts to meet reasonable further progress towards, and attainment and maintenance of, the NAAQS for CO and ozone.

The Department agrees with the commenter that the proper repair and maintenance of high-emitting vehicles is the key to eliminating excess emissions. When a vehicle has an emissions problem, the vehicle owner may be unaware of the problem. The enhanced emission inspection serves to effectively screen and subject only those

vehicles not meeting the emission standards to proper maintenance. The inspection also provides information which would assist a mechanic in making the necessary repairs.

The Department and the DMV recognize that the majority of private inspection facilities attempt to conduct inspections properly. The enhanced I/M program will include a technician education program which provides for the training and licensing of vehicle inspectors and the education and certification of repair technicians. The Department views these education programs as vital to the success of the program. Without accurate testing and effective repairs, the program will fail to achieve its goal of reducing emissions from motor vehicles.

8. COMMENT: The EPA suggested that the mechanic training and certification program will not impact the 18-month evaluation if, as planned, it does not begin until mid-1998. (1)

RESPONSE: The State plans on having the Mechanic Training & Certification Program operational by early 1997. Therefore, the State expects an adequate number of certified mechanics in the Program prior to the start of the Evaluation Phase in late 1997.

9. COMMENT: One commenter suggested that the enhanced I/M program should still be successful without requiring the inspection of historic cars, classic cars, trucks and motorcycles. If these vehicles are to be inspected, they should only be required to meet standards which they were originally designed to meet. The commenter suggested further that classic cars with over 3,000 miles per year should also be exempt from the emissions standards entirely. (5)

RESPONSE: All motorcycles, and all motor vehicles which satisfy the definition of historic vehicles, as defined at N.J.S.A. 39:3-27.3, are exempted from emission testing under the enhanced I/M program. (Historic vehicles are motor vehicles which are at least 25 years old, owned as collector's items and "used solely for exhibition and educational purposes by the owner.") In order to address concerns raised regarding the enhanced inspection of other older, collector-type cars not otherwise covered by the historic vehicle exemption, the State established two new classifications of motor vehicles under the enhanced I/M program: collector motor vehicles and low mileage vehicles. Vehicles classified by the DMV as collector motor vehicles will be exempt from emission testing. Vehicles classified by the DMV as low mileage vehicles which are model year 1981 or newer, will still be subject to emission testing, but, unlike their higher mileage counterparts which will be subject to the ASM5015 test, these low mileage vehicles will be subject to the high idle 2500 RPM test, a test which is very similar to the idle test and does not use a dynamometer. Pre-1981 low mileage vehicles, like all other non-exempt pre- 1981 vehicles, will continue to be subject to the idle test. For more information on the other requirements for these new classifications, please refer to the DMV's rules at N.J.A.C. 13:20-43.1, 43.2 and 43.8 and amendments proposed thereto. (See 28 N.J.R. 2334(a))

As for trucks, all diesel-powered trucks are exempt from the requirements of the enhanced I/M program, which only applies to gasoline-fueled motor vehicles; instead, diesel-powered trucks are subject to smoke opacity emission standards and test procedures established by the Department at N.J.A.C. 7:27-14 and N.J.A.C. 7:27B-4. Gasoline-powered trucks, on the other hand, continue to be subject to inspection under the requirements of the enhanced I/M program, as they have been under New Jersey's basic I/M program.

To the extent, however, that any "historic" or "classic" cars do not qualify as historic motor vehicles or collector motor vehicles as defined by the DMV's rule at N.J.A.C. 13:20-43.1, they will be subject to the requirements of the enhanced I/M program. It should be noted, however, that all vehicles tested under the enhanced program will only be required to meet standards consistent with their original design. The Department establishes emission standards for all motor vehicles, regardless of the test conducted, according to the model year of the vehicle, taking into consideration the natural deterioration over time of the vehicle's emission controls. In other words, no motor vehicle is ever required to meet emission standards more stringent than those to which it was originally manufactured. In fact, in all cases the in-use emission standards established by the Department are considerably less stringent than the original standards applied in the manufacture of the motor vehicle.

As for exempting from the emissions inspection requirements classic cars with over 3,000 miles per year, this would represent an unacceptable expansion of the category of vehicles which will no longer be subject to inspection in New Jersey. The determination to exempt from emission testing collector cars which are driven under 3,000 miles per year would already represent a departure from testing requirements in New Jersey which previously has only exempted historic vehicles from such emission testing. Historic vehicles, as defined at N.J.S.A. 39:3-27.3, are motor vehicles which are at least 25 years old, owned as collector's items and "used solely for exhibition and educational purposes by the owner." As a practical matter, they are extremely low mileage vehicles, by definition. As such, and because the population of historic vehicles is very small, their contribution to air pollution in this State is not significant. Similarly, the population of motor vehicles which meet the DMV definition of "collector motor vehicle" is small. By proposing a reasonable yearly mileage limit of 3,000, this population would be further reduced, as would be the yearly emissions attributable to the exempt category of motor vehicles.

To expand the mileage restriction for this category would seriously weaken the rationale for this exemption, and would compromise the ability of the enhanced I/M program to meet the emission reduction standard established by the EPA.

10. COMMENT: Another commenter indicated that the exemption of any motor vehicle group from inspection has an impact on the level of reductions that would occur had these vehicles been tested. New Jersey needs to consider the impact of all the exemptions to be allowed, including those vehicles that would normally be covered but are exempt because they are driven less than 3,000 miles per year. (1)

RESPONSE: The Department agrees with the commenter that the impact of any exemption of vehicles from the enhanced I/M program must be accounted for when calculating the overall benefits of the program. However, the Department has estimated the exempted vehicle population to be no more than 30,000 vehicles out of a total vehicle population of 4.8 million subject vehicles, or 0.6 percent of the total vehicle population. Therefore, the exempted vehicles were not directly accounted for in the program benefit analysis because the Department estimated that their impact would be negligible. If, after full program implementation, the Department finds that the percentage of exempted vehicles is much larger and/or their emissions are significant enough to have an impact on the overall program benefit, a new program benefit analysis will be performed and a new SIP revision will be adopted, taking into account the effects of these exempted motor vehicles.

11. COMMENT: This commenter objects to the implementation of any scrappage program. (5)

RESPONSE: The enhanced I/M program adopted by the State does not include an early vehicle retirement (or scrappage) program, nor does the Department intend to implement such a program. In March of 1994, as directed by N.J.S.A. 26:2C-8.13, the Department submitted a comprehensive overview on early vehicle retirement methods to the State Legislature explaining how an early vehicle retirement program could be structured, if the Legislature chose to implement such a program. The Legislature has not, however, pursued the concept of an early vehicle retirement program since that time.

12. COMMENT: One commenter questioned whether the proposed new rules contained any provisions whereby the State can seize a vehicle. (4)

RESPONSE: No, the adopted new rule and amendments unequivocally contain no provisions which would allow the State to seize or confiscate a vehicle. On July 1, 1996, at 28 N.J.R. 3413(a), the Department clarified its position regarding the inspection of motor vehicles on quasi-public property by adopting an amendment to revise the definition of "quasi-public property" which eliminated references to residential driveways, private residential access roads, and residential parking lots. The Department has never had the intention to enter these areas to enforce subchapter 15, nor has it ever had the intention or the authority to confiscate a motor vehicle for any purpose.

13. COMMENT: One commenter was uncomfortable with the degree of uncertainty in calculating costs. The Department should discuss the cost of the program to the motorist other than current taxes and user fees. (3)

RESPONSE: While the Department's estimates concerning the cost of the enhanced I/M program have been, unavoidably, best estimates in certain areas, they have been sufficiently precise overall to permit a confident projection of the overall positive economic impact of the enhanced I/M program, both as adopted on October 2, 1995 and as modified herein. Please see the Department's discussion of the general economic impact of the enhanced I/M program at 27 N.J.R. 2762. That economic impact statement includes a discussion of how the overall program, other than the changes to the program adopted herein, will impact a vehicle owner, including such items as repair costs, health care costs and driver inconvenience. The changes to the program effected by this adoption, which are discussed in detail in the Department's proposal at 28 N.J.R. 2302, will generally serve to reduce costs for the motorist.

14. COMMENT: Under the provisions of section 348(c) of the NHSDA of 1995, New Jersey must provide program data supporting the level of reductions claimed by its enhanced I/M program within 18 months after interim approval by the EPA. After the 18 month period, the EPA must make a final determination of the adequacy of the program based on submitted data from the fully operating program. If program start-up is delayed, New Jersey may be unable to test the full program or may find itself with a data sample too small to be representative of the program's overall performance. This would jeopardize final approval of the program for the level of credit expected by the State. (1)

RESPONSE: At the time the Department proposed this new rule and amendments, the State anticipated running a voluntary program for the entire 12-month period prior to full implementation. The State will begin using retrofitted lanes for voluntary testing as each retrofitting is completed. PIFs may also participate in the voluntary phase. In addition, the plan provides a strong incentive to encourage motorists to choose the enhanced I/M test by allowing those who pass the test a two-year grace period until the next inspection instead of the one-year mandatory inspection frequency now accorded those who pass the idle test. The State, therefore, is confident that a sufficient number of vehicles will be inspected and repaired, if necessary, during this interim phase to allow for on-going and timely modifications and adjustments to the system as needed. Once the program is fully operational, the State will begin collecting operational data on the program for the NHSDA Program Evaluation prior to the expiration of the NHSDA 18-month deadline. As such, the State is confident that it will be able to evaluate the full program in such a way as to ensure that the data sample is representative of the program's overall performance.

15. COMMENT: New Jersey intends to use the voluntary program to provide information for the ultimate design of its long-term program. However, no provision is being made to ensure an unbiased sample of inspected vehicles or sufficient participation by private inspection facilities. This is necessary to ensure that the data obtained is sufficiently reliable to provide the basis for modifying the program. (1)

RESPONSE: The Department will be using data from the voluntary phase of the enhanced I/M program to refine operational characteristics of the program. The Department is confident that this data will be adequate to identify any changes which may be necessary. The voluntary demonstration phase will be succeeded by a

mandatory, fully-implemented enhanced I/M program. The data from this mandatory program will be used to evaluate the overall effectiveness of the enhanced I/M program.

16. COMMENT: New Jersey may need to acquire equipment at the end of its voluntary period in order to implement its final program. The State needs to consider whether equipment manufacturers will be able to deliver and install all the emissions analyzers and dynamometers by the implementation deadlines. (1)

RESPONSE: The State does not anticipate a problem in obtaining and installing all necessary emissions analyzers and dynamometers by the implementation deadlines. The Department and the DMV have invested considerable time and effort into devising the equipment specifications for the enhanced I/M program. The State intends to continue the process of retrofitting the centralized inspection lanes throughout the voluntary period of the program in order to complete the retrofit process prior to the full implementation of the enhanced I/M program and start of the NHSDA evaluation phase.

17. COMMENT: New Jersey must fully document the basis for the claim that improving the level of enforcement activity against testing-and-repair facilities, implementing the mechanic training and certification program, and establishing upgraded emissions analyzer specifications will yield the State an 80 percent emission reduction credit. It is not possible to quantify this potential increase from the former, presumptive 50 percent reduction for decentralized or test-and-repair programs until the State indicates the level of audits it plans to implement. Furthermore, New Jersey's SIP submittal does not demonstrate how establishing a new analyzer specification for the new program would provide additional emission reductions, since upgraded analyzers are already required by the EPA's enhanced I/M rule. (1)

RESPONSE: The NHSDA provides that states are required to make good faith estimates regarding the emission reduction credit attributable to their I/M program. The EPA has indicated that states need only provide that the proposed credits claimed for the submission have a basis in fact. New Jersey will be basing its claim in large part on a comprehensive upgrade to its PIF oversight program which is built upon the electronic transfer of vehicle inspection data from PIFs to the State's central computer.

Subsequent to receiving this comment, the Department submitted supplemental material to the EPA regarding the State's proposed enhanced I/M SIP revisions. (A copy of this supplemental submission has been filed with the OAL and is also available by contacting Lori McGee, New Jersey Department of Environmental Protection, Rules Development Section, CN418, 401 E. State Street, 7th floor, Trenton, New Jersey 08625-0418, (609) 777-1345.) The material contained in "Attachment #1" of the supplemental submission provides, in greater detail than the proposed SIP revisions, the basis for the State's claim that the test-and-repair network of New Jersey's enhanced I/M program will yield the State an emission reduction credit of 80 percent of the test-only credit.

This adoption has been filed with the Office of Administrative Law. The Office of Administrative Law will edit this adoption before publishing it in the New Jersey Register. Please refer to the February 3,1997 New Jersey Register for the official text of the adoption.

18. COMMENT: The following were missing from the NHSDA SIP submittal: Appendix A (not submitted due to paper volume), Appendix I (no revision provided), and Appendix N (only draft form submitted).

RESPONSE: The Department has discussed the status of these appendices with the EPA subsequent to the submission of this comment. The Department 1) will ensure that the EPA has the necessary statutory and regulatory materials relative to Appendix A, 2) will submit to the EPA a revised Appendix I and 3) will submit to the EPA a final Appendix N when it submits New Jersey's supplemental SIP revisions forwarding copies of the Department's and the DMV's adoption documents.

In addition to the above comments, the EPA made a number of comments on the Department's proposal which it subsequently effectively updated and/or superseded within its proposed conditional interim approval of New Jersey's enhanced I/M SIP. (This proposed conditional interim rule proposes approval of the interim enhanced I/M SIP which the Department submitted to the EPA on March 27, 1996 and which includes the proposal of the Department's rules adopted herein.) See 61 Fed. Reg.56172, (October 31, 1996). The EPA has indicated that a copy of the EPA's proposed conditional interim approval and the EPA's technical support document will be available at EPA Region 2's site on the Internet's World Wide Web at http://www.epa.gov/region02/air/SIP/. For further information, contact Rudolph K. Kapichak, Mobile Source Team Leader, Air Programs Branch, EPA, Region 2, 25th Floor, 290 Broadway, New York, New York 10007-1866, (212) 637-4249.

Federal Standards Statement

The proposed changes to the Department's rules will not modify the program design so as to in any way impose standards or requirements that exceed those contained in federal law. Accordingly, neither Executive Order 27 (1994) nor N.J.S.A. 52:14B-23 requires a cost-benefit analysis.

Full Text of the adoption follows:

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7:27-15.5 Motor vehicle inspections

(a)-(b) (No change.)

(c) Initial inspections and reinspections for an on-cycle or an off-cycle inspection shall be performed at either an official inspection facility or at a PIF.

(d)-(e) (No change.)

(f) A motor vehicle inspection shall include the following:

1.-2. (No change.)

3. For all post-1974 model year LDGVs, LDGTs and HDGVs, an emission control apparatus compliance examination conducted in accordance with N.J.A.C. 7:27B-4.9;

4. Twelve months after the EPA's interim approval of the Enhanced I/M State Implementation Plan Revision, for all post-1980 model year LDGVs and LDGTs originally equipped with an evaporative emission control system, an evaporative pressure test utilizing motor vehicle emission testing equipment approved by the Department and conducted in accordance with N.J.A.C. 7:27B-4.10;

5. Twelve months after the EPA's interim approval of the Enhanced I/M State Implementation Plan Revision, for all post-1980 model year LDGVs and LDGTs originally equipped with an evaporative emission control system, an evaporative purge test utilizing motor vehicle emission testing equipment approved by the Department and conducted in accordance with N.J.A.C. 7:27B-4.11, except that those motor vehicles that, in accordance with (g) below, are subject to only the 2500 RPM test as their sole exhaust emission test, shall not be subject to an evaporative purge test;

6. For all LDGVs, LDGTs and HDGVs originally equipped with a sealed fuel filler cap (that is, not a directly vented fuel filler cap), not otherwise subject to an evaporative pressure test pursuant to (f)4, above, a fuel cap leak test utilizing motor vehicle emission testing equipment approved by the Department and conducted in accordance with N.J.A.C. 7:27B-4.13;

7. (Reserved); and

8. For any motor vehicle that is subject to a recall notice issued to the owner on or after January 1, 1995, pursuant to either a "Voluntary Emissions Recall" as defined at 40 C.F.R. section 85.1902(d) or to a remedial plan determination made pursuant to 42 U.S.C.A. section 7541(c), the provision by the owner of the motor vehicle of documentation that all applicable recall repairs have been completed; provided, however, for any recall notice received fewer than 60 days prior to inspection, provision of this documentation may, instead, be provided at the next scheduled vehicle inspection.

(g) The exhaust emission test to be used pursuant to (f)2 above shall be determined as follows:

1. Except as specified in (g)2 and 3 below, the exhaust emission test procedure to be used shall be as follows:

i. For model year 1980 and older motor vehicles, the exhaust emission test procedure to be used shall be the idle test set forth at N.J.A.C. 7:27B-4.5(b);

ii. For model year 1981 and newer motor vehicles, the exhaust emission test procedure to be used twelve months after the EPA's interim approval of the Enhanced I/M State Implementation Plan Revision shall be the ASM5015 test set forth at N.J.A.C. 7:27B-4.7, except that an inspection performed at a PIF may utilize the IM240 test set forth at N.J.A.C. 7:27B-4.8; and

iii. For model year 1981 and newer motor vehicles, the exhaust emission test procedure to be used until twelve months after the EPA's interim approval of the Enhanced I/M State Implementation Plan Revision shall be the idle test set forth at N.J.A.C. 7:27B-4.5(b).

2. Notwithstanding the provision of (g)1 above, if the motor vehicle has a GVWR in

excess of 8,500 pounds, the exhaust emission test procedure to be used shall be the idle test set forth at N.J.A.C. 7:27B-4.5(b).

3. Notwithstanding the provision of (g)1 above, if the motor vehicle is any of the following types, the exhaust emission test procedure to be used 12 months after the EPA's interim approval of the Enhanced I/M State Implementation Plan Revision shall be the 2500 RPM test set forth at N.J.A.C. 7:27B-4.6:

i. Motor vehicles of model year 1981 and newer that employ full-time four-wheel drive; or

ii. Low mileage vehicles of model year 1981 and newer.

(h) (No change.)

(i) An on-road inspection conducted pursuant to N.J.A.C. 13:20-43.14 may include the following:

1.-2. (No change.)

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3. For all post-1974 model year LDGVs, LDGTs and HDGVs, an emission control apparatus compliance examination conducted in accordance with N.J.A.C. 7:27B-4.9;

4. Twelve months after the EPA's interim approval of the Enhanced I/M State Implementation Plan Revision, for all post-1980 model year LDGVs and LDGTs originally equipped with an evaporative emission control system, unless the motor vehicle is exempt pursuant to N.J.A.C. 7:27-15.6(e) or (f), an evaporative pressure test utilizing motor vehicle emission testing equipment approved by the Department and conducted in accordance with N.J.A.C. 7:27B-4.10; and

5. (No change.)

(j)-(l) (No change.)

7:27-15.6 Motor vehicle inspection standards

(a) (No change.)

(b) Any light-duty gasoline-fueled vehicle, light-duty gasoline-fueled truck or heavy-duty gasoline-fueled vehicle shall not emit carbon monoxide (CO), hydrocarbons (HC), or oxides of nitrogen (NOx) in the exhaust emissions in excess of the following standards:

1.-2. (No change.)

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3. If, pursuant to the provisions of N.J.A.C. 7:27-15.5(g), a motor vehicle is tested using the ASM5015 test, the motor vehicle shall be subject to the applicable exhaust emission standards set forth in Table 3 below. Compliance with these standards shall be determined in accordance with the inspection test procedure at N.J.A.C. 7:27B-4.7; or

4. If, pursuant to the provisions of N.J.A.C. 7:27-15.5(g), a motor vehicle is tested using the IM 240 test using the IM240 test, the motor vehicle shall be subject to the applicable exhaust emission standards set forth in Table 4 below. Compliance with these standards shall be determined in accordance with the inspection test procedure at N.J.A.C. 7:27B-4.8.

TABLES 1 and 2

(No change.)

TABLE 3

EXHAUST EMISSION STANDARDS FOR THE ASM5015 TEST

LDGVs Powered by Gasoline

(Effective through December 31, 1999)

Model Years	HC*	CO*	NOx*
1981-1982	4	13	19
1983-1990	4	11	19
1991-1995	2	10	18
1994+ Tier	1	9	17

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*The numbers given in this column refer to the appropriate column number in Table 5, below, which contains the actual exhaust emission standards.

LDGVs Powered by a Fuel Other Than Gasoline (Effective through December 31, 1999) (Reserved)

LDGT1s Powered by Gasoline

(Effective through December 31, 1999)

Model Years	HC*	CO*	NOx*
1981-1983	8	16	24
1984-1987	6	15	24
1988-1990	6	15	20
1991-1995	5	13	19
1994+ Tier 1			

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(3750 LVW)	1	9	17
(>3750 LVW)	2	10	18

*The numbers given in this column refer to the appropriate column number in Table 5, below, which contains the actual exhaust emission standards.

LDGT1s Powered by a Fuel Other Than Gasoline (Effective through December 31, 1999) (Reserved)

LDGT2s Powered by Gasoline

(Effective through December 31, 1999)

Model Years	HC*	CO*	NOx*
1981-1983	8	16	24
1984-1987	6	15	24
1988-1990	6	15	23
1991-1995	5	13	22

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1994+ Tier 1			
(5750 LVW)	2	10	18
(>5750 LVW)	5	13	21

*The numbers given in this column refer to the appropriate column number in Table 5, below, which contains the actual exhaust emission standards.

LDGT2s Powered by a Fuel Other Than Gasoline (Effective through December 31, 1999) (Reserved)

LDGVs Powered by Gasoline

(Effective January 1, 2000)

Model Years	HC*	CO*	NOx*
1981-1982	1	11	17

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1983+	1	9	17

*The numbers given in this column refer to the appropriate column number in Table 5, below, which contains the actual exhaust emission standards.

LDGVs Powered by a Fuel Other Than Gasoline (Effective January 1, 2000) (Reserved)

LDGT1s Powered by Gasoline

(Effective January 1, 2000)

Model Years	HC*	CO*	NOx*
1981-1983	7	14	22
1984-1987	3	12	22
1988-1995	3	12	18
1994+ Tier	1	9	17

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*The numbers given in this column refer to the appropriate column number in Table 5, below, which contains the actual exhaust emission standards.

LDGT1s Powered by a Fuel Other Than Gasoline (Effective January 1, 2000) (Reserved)

LDGT2s Powered by Gasoline

(Effective January 1, 2000)

Model Years	HC*	CO*	NOx*
1981-1983	7	14	22
1984-1987	3	12	22
1988-1995	3	12	20
1994+ Tier	1	9	17

*The numbers given in this column refer to the appropriate column number in Table 5, below, which contains the actual exhaust emission standards.

LDGT2s Powered by a Fuel Other Than Gasoline (Effective January 1, 2000) (Reserved)

TABLE 4

EXHAUST EMISSION STANDARDS FOR THE IM240 TEST

LDGVs Powered by Gasoline

(effective through December 31, 1999)

Model Years	HC (g/mi)		CO (g/mi)		NOx (g/mi)	
	Composite	Phase 2	Composite	Phase 2	Composite	Phase 2

1968-1972	10.0	6.00	150	120	10.0	10.0
1973-1974	10.0	6.00	150	120	9.0	9.0
1975-1976	7.50	5.00	90.0	72.0	9.0	9.0
1977-1979	7.50	5.00	90.0	72.0	6.0	6.0
1980	2.00	1.25	60.0	48.0	6.0	6.0
1981-1982	2.00	1.25	60.0	48.0	3.0	3.0
1983-1990	2.00	1.25	30.0	24.0	3.0	3.0
1991-1995	1.20	0.75	20.0	16.0	2.5	2.5
1994+ Tier 1	0.80	0.50	15.0	12.0	2.0	2.0

LDGVs Powered by a Fuel Other Than Gasoline (effective through December 31, 1999) (Reserved)

LDGT1s Powered by Gasoline (effective through December 31, 1999)

Model Years	**HC (g/mi)**		**CO (g/mi)**		**NOx (g/mi)**	
	Composite	**Phase 2**	**Composite**	**Phase 2**	**Composite**	**Phase 2**

1968-1972	10.0	6.00	150	120	10.0	10.0
1973-1974	10.0	6.00	150	120	9.0	9.0
1975-1978	8.00	5.00	120	96.0	9.0	9.0
1979-1983	7.50	5.00	100	80.0	7.0	7.0
1984-1987	3.20	2.00	80.0	64.0	7.0	7.0
1988-1990	3.20	2.00	80.0	64.0	3.5	3.5
1991-1995	2.40	1.50	60.0	48.0	3.0	3.0
1994+ Tier 1						
(LVW<3750)	0.80	0.50	15.0	12.0	2.0	2.0
(LVW>3750)	1.00	0.63	20.0	16.0	2.5	2.5

LDGT1s Powered by a Fuel Other Than Gasoline (effective through December 31, 1999) (Reserved)

LDGT2s Powered by Gasoline (effective through December 31, 1999)

Model Years	HC (g/mi)		CO (g/mi)		NOx (g/mi)	
	Composite	Phase 2	Composite	Phase 2	Composite	Phase 2
1968-1972	10.0	6.00	150	120	10.0	10.0
1973-1974	10.0	6.00	150	120	9.0	9.0
1975-1978	8.00	5.00	120	96.0	9.0	9.0
1979-1983	7.50	5.00	100	80.0	7.0	7.0
1984-1987	3.20	2.00	80.0	64.0	7.0	7.0
1988-1990	3.20	2.00	80.0	64.0	5.0	5.0
1991-1995	2.40	1.50	60.0	48.0	4.5	4.5
1994+ Tier 1						
(LVW<5750)	1.00	0.63	20.0	16.0	2.5	2.5
(LVW>5750)	2.40	1.50	60.0	48.0	4.0	4.0

LDGT2s Powered by a Fuel Other Than Gasoline (effective through December 31, 1999) (Reserved)

LDGVs Powered by Gasoline (effective January 1, 2000)

Model Years	HC (g/mi)		CO (g/mi)		NOx(g/mi)	
	Composite	Phase 2	Composite	Phase 2	Composite	Phase 2
1968-1972	7.00	4.50	120	96.0	7.0	7.0
1973-1974	7.00	4.50	120	96.0	6.0	6.0
1975-1976	3.00	2.00	65.0	52.0	6.0	6.0
1977-1979	3.00	2.00	65.0	52.0	4.0	4.0
1980	0.80	0.50	30.0	24.0	4.0	4.0
1981-1982	0.80	0.50	30.0	24.0	2.0	2.0
1983-1995	0.80	0.50	15.0	12.0	2.0	2.0
1994+ Tier 1	0.60	0.40	10.0	8.0	1.5	1.5

LDGVs Powered by a Fuel Other Than Gasoline (effective January 1, 2000) (Reserved)

LDGT1s Powered by Gasoline (effective January 1, 2000)

Model Years	HC (g/mi)		CO (g/mi)		NOx (g/mi)	
	Composite	Phase 2	Composite	Phase 2	Composite	Phase 2
1968-1972	7.00	4.50	120	96.0	7.0	7.0
1973-1974	7.00	4.50	120	96.0	6.0	6.0
1975-1978	4.00	2.50	80.0	64.0	6.0	6.0
1979-1983	3.40	2.00	70.0	56.0	4.5	4.5
1984-1987	1.60	1.00	40.0	32.0	4.5	4.5
1988-1995	1.60	1.00	40.0	32.0	2.5	2.5
1994+ Tier 1						
(LVW<3750)	0.60	0.40	10.0	8.0	1.5	1.5
(LVW>3750)	0.80	0.50	13.0	10.0	1.8	1.8

LDGT1s Powered by a Fuel Other Than Gasoline (effective January 1, 2000) (Reserved)

LDGT2s Powered by Gasoline (effective January 1, 2000)

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Model Years	HC (g/mi)		CO (g/mi)		NOx (g/mi)	
	Composite	Phase 2	Composite	Phase 2	Composite	Phase 2
1968-1972	7.00	4.50	120	96.0	7.0	7.0
1973-1974	7.00	4.50	120	96.0	6.0	6.0
1975-1978	4.00	2.50	80.0	64.0	6.0	6.0
1979-1983	3.40	2.00	70.0	56.0	4.5	4.5
1984-1987	1.60	1.00	40.0	32.0	4.5	4.5
1988-1995	1.60	1.00	40.0	32.0	3.5	3.5
1994+ Tier 1						
(LVW5750)	0.80	0.50	13.0	10.0	1.8	1.8
(LVW>5750)	0.80	0.50	15.0	12.0	2.0	2.0

LDGT2s Powered by a Fuel Other Than Gasoline (effective January 1, 2000) (Reserved)

TABLE 5

	Hydrocarbons (ppm)								Carbon Monoxide (%)								Oxides of Nitrogen (ppm)							
Column Numbers LVW(*)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

1750	142	224	257	291	324	390	407	774	0.80	1.26	1.64	2.02	2.78	3.16	3.54	4.31	1212	1819	2272	2725	3178	3631	4084	4990
1875	134	212	243	275	306	368	384	729	0.75	1.19	1.55	1.91	2.63	2.98	3.34	4.06	1142	1713	2181	2649	3117	3586	4054	4990
2000	127	201	230	260	289	348	363	688	1.71	1.13	1.47	1.81	2.48	2.82	3.16	3.83	1077	1616	2058	2499	2941	3383	3824	4778
2125	121	191	219	246	274	329	343	650	0.68	1.07	1.39	1.71	2.35	2.67	2.99	3.63	1018	1527	1944	2360	2776	3192	3609	4578
2250	115	182	208	234	260	312	325	615	0.64	1.02	1.32	1.62	2.23	2.53	2.83	3.44	964	1446	1839	2232	2625	3018	3411	4395
2375	109	173	198	223	247	297	309	583	0.61	0.97	1.26	1.54	2.12	2.40	2.69	3.26	915	1372	1744	2115	2487	2859	3231	4228
2500	105	166	189	212	236	283	294	554	0.59	0.93	1.20	1.47	2.02	2.29	2.56	3.10	869	1304	1657	2009	2361	2714	3066	4076
2625	100	159	181	203	225	270	281	528	0.56	0.89	1.15	1.41	1.92	2.18	2.44	2.96	828	1242	1577	1912	2246	2581	2916	3936
2750	96	152	173	194	216	258	269	503	0.54	0.85	1.10	1.34	1.84	2.09	2.33	2.83	791	1186	1504	1823	2142	2460	2779	3809
2875	92	146	167	187	207	247	257	481	0.52	0.82	1.05	1.29	1.76	2.00	2.23	2.71	756	1134	1438	1742	2046	2350	2654	3669
3000	89	141	160	180	199	237	247	461	0.50	0.79	1.01	1.24	1.69	1.92	2.14	2.60	725	1088	1378	1668	1959	2249	2539	3510
3125	86	136	155	173	191	228	238	443	0.48	0.76	0.98	1.19	1.63	1.84	2.06	2.50	696	1045	1323	1601	1879	2157	2435	3366
3250	83	132	149	167	185	220	229	426	0.46	0.73	0.94	1.15	1.57	1.78	1.99	2.40	670	1006	1273	1539	1806	2073	2340	3234
3375	81	128	145	162	179	213	221	411	0.45	0.71	0.91	1.11	1.52	1.72	1.92	2.32	647	970	1227	1483	1740	1997	2253	3113
3500	78	124	140	157	173	206	214	397	0.44	0.69	0.88	1.08	1.47	1.66	1.86	2.24	625	937	1184	1432	1679	1926	2174	3002
3625	76	120	136	152	168	200	207	384	0.42	0.67	0.86	1.05	1.42	1.61	1.80	2.17	605	907	1146	1384	1623	1862	2100	2900
3750	74	117	133	148	163	194	201	372	0.41	0.65	0.83	1.02	1.38	1.56	1.74	2.11	586	879	1110	1340	1571	1802	2033	2806
3875	72	114	129	144	159	188	196	361	0.40	0.63	0.81	0.99	1.34	1.52	1.69	2.05	569	853	1077	1300	1523	1747	1970	2719
4000	71	112	126	140	155	183	191	351	0.39	0.62	0.79	0.96	1.31	1.48	1.65	1.99	553	829	1046	1262	1479	1695	1912	2638
4125	69	109	123	137	151	179	176	341	0.38	0.60	0.77	0.94	1.27	1.44	1.61	1.94	538	807	1017	1227	1437	1647	1857	2562
4250	60	107	120	134	147	174	181	332	0.37	0.59	0.75	0.92	1.24	1.40	1.56	1.89	524	786	990	1194	1398	1602	1806	2490
4375	66	104	118	131	144	170	177	323	0.36	0.58	0.74	0.89	1.21	1.37	1.53	1.84	510	766	964	1162	1360	1559	1757	2423
4500	65	102	115	128	141	166	172	315	0.36	0.57	0.72	0.87	1.18	1.34	1.49	1.80	498	747	939	1132	1325	1518	1711	2359

4625	63	100	113	125	137	162	169	308	0.35	0.55	0.70	0.85	1.15	1.30	1.46	1.76	486	728	916	1104	1291	1479	1666	2297
4750	62	98	110	122	134	159	165	300	0.34	0.54	0.69	0.84	1.13	1.28	1.42	1.72	474	711	893	1076	1259	1441	1624	2238
4875	61	96	108	120	132	155	161	293	0.34	0.53	0.67	0.82	1.10	1.25	1.39	1.68	463	694	872	1049	1227	1405	1583	2180
5000	60	94	106	117	129	152	157	286	0.33	0.52	0.66	0.80	1.08	1.22	1.36	1.64	452	677	850	1023	1196	1369	1542	2125
5125	58	93	104	115	126	148	154	279	0.32	0.51	0.65	0.78	1.05	1.19	1.33	1.60	441	661	830	998	1167	1335	1503	2070
5250	57	91	102	112	123	145	150	272	0.32	0.50	0.63	0.77	1.03	1.16	1.30	1.56	431	646	810	974	1138	1301	1465	2017
5375	56	89	100	110	121	142	147	266	0.31	0.49	0.62	0.75	1.01	1.14	1.27	1.53	420	631	790	950	1109	1269	1428	1966
5500	55	87	98	108	118	139	144	259	0.30	0.48	0.61	0.73	0.99	1.11	1.24	1.49	410	616	771	926	1082	1237	1392	1916
5625	54	86	96	106	116	136	141	253	0.30	0.47	0.59	0.72	0.97	1.09	1.21	1.46	401	601	752	904	1055	1206	1357	1867
5750	53	84	94	104	113	133	138	247	0.29	0.46	0.58	0.70	0.94	1.07	1.19	1.43	391	587	734	882	1029	1176	1323	1820
5875	52	83	92	102	111	130	135	241	0.29	0.45	0.57	0.69	0.92	1.04	1.16	1.40	383	574	717	860	1004	1147	1290	0774
6000	51	81	90	100	109	127	132	236	0.28	0.44	0.56	0.67	0.91	1.02	1.14	1.37	374	561	701	840	980	1120	1259	1731
6125	50	80	89	98	107	125	129	231	0.28	0.44	0.55	0.66	0.89	1.00	1.11	1.34	366	549	685	822	958	1094	1230	1690
6250	50	79	87	96	105	123	127	226	0.27	0.43	0.54	0.65	0.87	0.98	1.09	1.31	359	538	671	804	937	1070	1203	1653
6375	49	77	86	95	103	120	125	222	0.27	0.42	0.53	0.64	0.86	0.96	1.07	1.29	352	528	658	788	919	1049	1179	1619
6500	48	76	85	93	102	119	123	218	0.26	0.42	0.52	0.63	0.84	0.95	1.06	1.27	346	519	647	775	902	1030	1158	1590
6625	48	76	84	92	101	117	121	215	0.26	0.41	0.52	0.63	0.83	0.94	1.04	1.25	341	512	638	763	889	1014	1140	1565
6750	47	75	83	91	100	116	120	213	0.26	0.41	0.51	0.61	0.82	0.93	1.03	1.24	338	507	631	755	879	1003	1127	1546
6875	47	75	83	91	99	115	119	211	0.26	0.40	0.51	0.61	0.82	0.92	1.02	1.23	335	503	626	749	872	995	1118	1534
7000	47	74	83	91	99	115	119	211	0.25	0.40	0.51	0.61	0.82	0.92	1.02	1.23	335	502	325	747	870	992	1115	1531
7125	47	74	82	90	98	115	119	211	0.25	0.40	0.51	0.61	0.81	0.92	1.02	1.22	335	502	624	747	870	992	1115	1530
7250	47	74	82	90	98	115	119	211	0.25	0.40	0.50	0.61	0.81	0.92	1.02	1.22	335	502	624	747	870	992	1115	1530
7375	47	74	82	90	98	115	119	211	0.25	0.40	0.50	0.61	0.81	0.92	1.02	1.22	335	502	624	747	870	992	1115	1530

This adoption has been filed with the Office of Administrative Law. The Office of Administrative Law will edit this adoption before publishing it in the New Jersey Register. Please refer to the February 3,1997 New Jersey Register for the official text of the adoption.

7500	47	74	82	90	98	115	119	211	0.25	0.40	0.50	0.61	0.81	0.92	1.02	1.22	335	502	624	747	870	992	1115	1530
Column Numbers LVW(*)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

*For the purpose of applying these standards, the vehicle's LVW shall be rounded to the nearest 125 pound increment listed in this table.

Note: The emission standards decrease with increasing vehicle weight in order to maintain a constant concentration-based standard for all vehicle weights. This effect is a result of conversion of the standards from a mass measurement to a concentration measurement and accounts for increased displacement from larger engines or a higher RPM from the increased load on smaller engines in heavier vehicles.

(c) A gasoline-fueled motor vehicle which is subject to inspection pursuant to N.J.A.C. 7:27-15.5(a) shall, as a condition of compliance with said inspection, have properly functioning and properly maintained emission control apparatus as determined according to the inspection test procedures established at N.J.A.C. 7:27B-4.9, 4.10, 4.11, 4.12 and 4.13.

(d) Except as provided in (e) and (f) below, the applicability of the standards set forth in this subchapter and of the test procedures set forth at N.J.A.C. 7:27B-4.5, 4.6, 4.7, 4.8, 4.9, 4.10, 4.11, 4.12 and 4.13 to a motor vehicle with an engine other than the engine originally installed by the manufacturer shall be based on the chassis type and model year of the motor vehicle, not on the engine model year.

(e)-(g) (No change.)

7:27B-4.13 Procedures for the fuel cap leak test

(a) If the vehicle's fuel cap is missing, the vehicle shall be determined to fail the fuel cap leak test and the fuel cap leak test shall be immediately terminated.

(b) If the vehicle's fuel cap is not missing, the testing procedure for the fuel cap leak test, to be used to determine a motor vehicle's compliance with the fuel cap leak test requirements at N.J.A.C. 7:27-15.5(f)6, shall be as follows:

1. If the fuel cap is not tethered, remove the fuel cap and take it to the flow test device. If the fuel cap is tethered, bring the flow test device to the vehicle;

2. Fit the adapter appropriate for the fuel cap to the flow test device;

3. Install the fuel cap on the adapter and pressurize the flow test device to 30 inches of water;

4. Compare the fuel cap leak rate to the leak rate of an orifice with a flow rate of 60 cubic centimeters per minute of air at 30 inches of water; and

5. If the leak rate of the fuel cap exceeds the leak rate of the orifice, the motor vehicle shall be determined to fail the fuel cap leak test.